

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A heating element comprising an electrically insulating layer and an electrically conductive layer, wherein at least both the electrically insulating layer and the electrically conductive layer is are based on a hybrid sol-gel precursor comprising an at least one organosilane compound, wherein the electrically insulating layer comprises non-conductive particles having longest dimension of 2-500 micrometers.

2. (Currently Amended) The heating element according to claim 1, characterized in that the hybrid sol-gel precursor comprises a wherein the at least one compound is from the a group of alkyl-alkoxysilanes.

Claims 3-4 (Cancelled)

5. (Previously Presented) The heating element according to claim 1, wherein the electrically insulating layer comprises anisotropic, non-conductive particles.

6. (Previously Presented) The heating element according to claim 1, wherein the electrically conductive layer comprises conductive and/or semi-conductive particles, as well as an amount of insulating particles in a quantity of 0-20 % by volume.

7. (Previously Presented) The heating element according to claim 6, wherein the electrically conductive layer comprises metal particles.

8. (Previously Presented) The heating element according to claim 7, wherein the electrically conductive layer comprises silver or silver alloy particles.

9. (Previously Presented) The heating element according to claim 6, wherein the electrically conductive layer comprises graphite or carbon-black particles.

10. (Currently Amended) The heating element according to claim 1, wherein the electrically conductive layer does not exceed 30 mm in thickness and preferably does not exceed 15 mm in thickness.

11. (Previously Presented) The heating element according to claim 1, wherein the insulating layer has a thickness of 25-100 mm.

12. (Previously Presented) The heating element according to claim 1, wherein the heating element is applied on an aluminum or aluminum alloy substrate.

13. (Currently Amended) An electrical domestic appliance, comprising:

a heating element, which comprises:

an electrically insulating layer; and

an electrically conductive layer;

wherein at least both the electrically insulating layer and
the electrically conductive layer is are based on a hybrid sol-gel
precursor comprising an organosilane compound, and

wherein the electrically insulating layer comprises non-
conductive particles having longest dimension of 2-500 micrometers.

14. (Previously Presented) The electrical domestic appliance according to claim 13, wherein the electrical domestic appliance is one of: an iron, a hair dryer, a hair styler, a steamer, a steam cleaner, a garment cleaner, a heated ironing board, a facial steamer, a kettle, a pressurized boiler for system irons and cleaners, a coffee maker, a deep fat fryer, a rice cooker, a sterilizer, a hot plate, a hot-pot, grill, a space heater, a waffle iron, a toaster, an oven, or a water heater.

15. (Currently Amended) The heating element of claim 1,
wherein the electrically insulating layer comprises non-conductive

particles having longest dimension of 2-500 micrometers, and
wherein the non-conductive particles comprise 4-10 % by volume of
the electrically insulating layer.

16. (Currently Amended) The heating element of claim 1,
wherein the electrically insulating layer comprises non-conductive
flat-shaped particles having longest dimension of 2-500
micrometers, and further non-conductive particles have a flat shape
in colloidal form.

17. (Currently Amended) The electrical domestic appliance of
claim 13, wherein the electrically insulating layer comprises non-
conductive particles having longest dimension of 2-500 micrometers,
and wherein the non-conductive particles comprise 4-10 % by volume
of the electrically insulating layer.

18. (Currently Amended) The electrical domestic appliance of
claim 13, wherein the electrically insulating layer comprises non-
conductive flat-shaped particles having longest dimension of 2-500

micrometers, and further non-conductive particles have a flat shape in colloidal form.

19. (New) The heating element of claim 1, wherein the at least one organosilane compound comprises at least one of methyl-trimethoxysilane (MTMS) and methyl-triethoxysilane (MTES).

20. (New) The heating element of claim 1, wherein the electrically conductive layer includes a different organosilane compound than the electrically insulating layer.